Subject 24.242. Logic II. Sample problems from the first homework, due February 26

- 1. Write down a bounded formula whose extension is the set of triples  $\langle x, y, z \rangle$  such that x, y, and z are positive integers and z is a common divisor of x and y.
- 2. Define, for F, a finite set of natural numbers, Code(F) to be  $\sum_{x \in F} 2Ex$ , so that F is the set of places in the binary decimal expansion of Code(F) where 1s appear. Give the Arabic numeral for  $Code(\{2,4,6,8\})$ .